

In the Claims:

Please delete claims 20-23, all as shown below. All pending claims are reproduced below, including those that remain unchanged.

1. (Previously Amended): An electrical feed-through assembly to provide a hermetic seal in a coaxial connector, comprising:
 - a conductive insert having a bore;
 - a dielectric insert positioned within the bore having a first diameter sized such that an impedance of the dielectric insert is a target impedance;
 - a center conductor pin extending through the dielectric insert;
 - an air dielectric positioned within the bore having a second diameter sized such that an impedance of the air dielectric is the target impedance; and
 - a compensation gap positioned between the dielectric insert and the air dielectric, the compensation gap having an impedance larger than the target impedance;wherein the compensation gap is a recess formed within the dielectric insert.
2. (Original): The electrical feed-through assembly of claim 1, wherein the dielectric insert comprises a glass bead.
3. (Original): The electrical feed-through assembly of claim 1, wherein the conductive insert comprises a conductive metal.
4. (Original): The electrical feed-through assembly of claim 3, wherein the conductive insert comprises Kovar.
5. (Original): The electrical feed-through assembly of claim 1, further comprising a sleeve positioned within the bore, wherein the dielectric insert is formed in the sleeve.
6. (Original): The electrical feed-through assembly of claim 5, wherein the sleeve is positioned within the bore by soldering.
7. (Original): The electrical feed-through assembly of claim 5, wherein the dielectric insert is

formed by molding.

8. (Original): The electrical feed-through assembly of claim 1, wherein the dielectric insert is formed in the bore.

9. (Original): The electrical feed-through assembly of claim 8, wherein the dielectric insert is formed by molding.

10. (Previously Amended): An electrical feed-through assembly to provide a hermetic seal in a coaxial connector, comprising:

a conductive insert having a bore and a cavity within the bore, the cavity surrounding a portion of the bore;

a dielectric insert positioned within the bore having a diameter sized such that an impedance of a portion of the dielectric insert is a target impedance, the dielectric insert extending into the cavity;

a center conductor pin extending through the dielectric insert;

an air dielectric positioned within the bore, the air dielectric having a diameter sized such that an impedance of a portion of the air dielectric is the target impedance; and

a compensation gap formed between the glass dielectric and the air dielectric, such that at least a portion of the compensation gap is surrounded by the cavity.

11. (Original): The electrical feed-through assembly of claim 10, wherein the dielectric insert comprises a glass bead.

12. (Original): The electrical feed-through assembly of claim 10, wherein the conductive insert comprises a conductive metal.

13. (Original): The electrical feed-through assembly of claim 10, wherein the conductive insert comprises Kovar.

14. (Original): The electrical feed-through assembly of claim 10, wherein the dielectric insert is formed within the bore.

15. (Original): The electrical feed-through assembly of claim 14, wherein the dielectric insert is formed by molding.

16. (Previously Amended): A dielectric insert assembly to provide a hermetic seal in a coaxial connector, comprising:

- a substantially cylindrical sleeve having a first inner diameter;
- a dielectric insert formed within the sleeve, the dielectric insert having a first end and a second end;
- a center conductor pin extending through the dielectric insert; and
- a compensation gap extending into the second end of the dielectric insert, the compensation gap having a second diameter smaller than the first inner diameter;

wherein a portion of the center conductor pin extends through the compensation gap.

17. (Currently Amended): The dielectric insert assembly of claim 16, wherein the dielectric insert comprises a glass bead.

18. (Currently Amended): The dielectric insert assembly of claim 16, wherein the sleeve comprises a conductive metal.

19. (Original) The dielectric insert assembly of claim 16, wherein the dielectric insert is formed by molding.

Claims 20 - 23 (Cancelled)

24. (New): The electrical feed-through assembly of claim 10, wherein an impedance of the compensation gap is higher than the target impedance.

25. (New): The electrical feed-through assembly of claim 16, wherein:

- an impedance of a portion of the dielectric insert is a target impedance;
- an impedance of the compensation gap is higher than the target impedance.

26. (New): An electrical feed-through assembly to provide a hermetic seal in a coaxial connector, comprising:

a conductive insert having a bore and a cavity extending from the bore;
a dielectric insert disposed within the bore, the dielectric insert having a diameter sized such that an impedance of a portion of the dielectric insert is a target impedance;
a choke extending from the dielectric insert and disposed within the cavity;
an air dielectric positioned within the bore, the air dielectric having a diameter sized such that an impedance of a portion of the air dielectric is the target impedance; and
a center conductor pin extending through the dielectric insert and the air dielectric;
wherein at least a portion of the air dielectric is coincident with the choke along the center conductor pin; and
wherein the portion of the air dielectric coincident with the choke along the center conductor pin is a compensation gap.

27. (New): A coaxial connector assembly comprising:

a package housing;
a microstrip disposed within the package housing;
an electrical feed-through assembly mounted in the package housing, the electrical feed-through assembly including:
a conductive insert having a bore,
a dielectric insert positioned within the bore having a first diameter sized such that an impedance of the dielectric insert is a target impedance,
a center conductor pin extending through the dielectric insert,
an air dielectric positioned within the bore having a second diameter sized such that an impedance of the air dielectric is the target impedance, and
a compensation gap positioned between the dielectric insert and the air dielectric, the compensation gap having an impedance larger than the target impedance,
wherein the compensation gap is a recess formed within the dielectric insert;
wherein the center conductor pin is in electrical communication with the microstrip.

28. (New): A coaxial connector assembly comprising:

a package housing;
a microstrip disposed within the package housing;
an electrical feed-through assembly mounted in the package housing, the electrical feed-through

assembly including:

- a conductive insert having a bore and a cavity extending from the bore,
- a dielectric insert disposed within the bore, the dielectric insert having a diameter sized such that an impedance of a portion of the dielectric insert is a target impedance,
- a choke extending from the dielectric insert and disposed within the cavity;
- an air dielectric positioned within the bore, the air dielectric having a diameter sized such that an impedance of a portion of the air dielectric is the target impedance, and
- a center conductor pin extending through the dielectric insert and the air dielectric,

wherein at least a portion of the air dielectric is coincident with the choke along the center conductor pin,

- wherein the portion of the air dielectric coincident with the choke is a compensation gap;
- wherein the center conductor pin is in electrical communication with the microstrip.